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Response
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Bradley A. Bloechel
Serial No. : 09/843,606
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Title : DEVICE TESTING USING A HOLDING-CIRCUIT

Art Unit : 2829
Examiner : J. Nguyen

Commissioner for Patents
Washington, D.C. 20231

RESPONSE TO OFFICE ACTION MAILED JANUARY 16, 2003

Claims 1-27 are pending.

Applicants thanks the Examiner for indicating that claims 7-15 are allowed and that claims 19-27 include allowable subject matter.

In view of the following remarks, the applicant respectfully requests withdrawal of each of the rejections and allowance of the application.

Claim Rejections 35 U.S.C. § 102

Claims 1-6, 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent no. 4,922,184 issued to Rosenstein et al. ("the Rosenstein patent"). As discussed below, applicants respectfully disagree.

Claim 1 of the present application recites a method that includes:

generating event signals;

storing the event signals in a holding circuit;

producing response signals in a device under test (DUT) in response to the event signals; and

evaluating the DUT based on the response signals from the DUT and stored event signals received from the holding circuit.

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In one embodiment of the present invention, FIGS. 1 and 2 show a measurement system 19 for testing a device under test (DUT) 11. (*See* page 2, lines 9-23 of the present application) A pulse-generator 10 generates 100 event-signals 14a, 14n on line 14 and trigger-signals 16a, 16n on line 16. A holding-circuit 13 receives the event-signals 14a, 14n, and trigger-signals 16a, 16n, and generates 102 output-signals 17a, 17n on line 17. DUT 11 receives the output-signals 17a, 17n and produces 104 buffered-output-signals 18a, 18n on line 18 and response-signals 15a, 15n on line 15. The measurement equipment 12 measures 106 the response of the DUT 11 based on the (1) buffered-output-signals 18a, 18n, and (2) response-signals 15a, 15n. The foregoing techniques can enable a high rise-time signal to be captured and held for subsequent test measurement purposes. The holding-circuit may require few electronic components, thereby providing a cost-effective technique. (*See* page 8, lines 6-9 of the present application)

The Rosenstein patent discloses an integrated circuit continuity testing system in which a circuit 16 is mounted on a fixture 18 operable to vibrate the circuit under controlled conditions. (*See* FIG. 1; and column 4, lines 9-50) A continuity testing board 26 contains a multiplicity of sensing circuits, each of which is electrically connected to circuit 16 over cable 24 during continuity testing. A pulse generator 30 is provided to sends signals to the board 26 to control the timing and frequency of samples in the course of testing.

The Rosenstein patent does not disclose each and every limitation of claim 1. In particular, the Rosenstein patent does not teach or suggest techniques that include generating event signals and "storing the event signals in a holding circuit" as recited in claim 1. The Office action suggests that the signals from the pulse generator 30 (FIG. 1 of the Rosenstein patent) correspond to the claimed "event signals" and that the fixture 18 of the Rosenstein patent corresponds to a holding circuit capable of "storing the event signals" as recited in claim 1. That characterization is incorrect for the following reasons.

First, the fixture 18 refers to a vibrational fixture for holding the circuit 16. (*See* column 4, lines 9-14; and claim 17). In turn, the fixture 18 holding the circuit is housed in a closed chamber 20 whereby the circuit is subjected temperature cycling and/or vibration testing. Thus, although the fixture 18 holds a circuit 16, the fixture is not a "holding circuit" as recited in claim 1 of the present invention.

Moreover, even if the fixture 18 were a "holding circuit" as recited in claim 1, the signals produced by the pulse generator 30—which allegedly correspond to the "event signals"—are not stored in the fixture. Instead, the pulse generator 30 generates signals directed to the sensing circuits in the test board 26 controlling the timing and frequency of samples in the course of testing the test specimen 16, but not directed to the fixture 18. In other words, fixture 18 does not store "event signal" as recited claim 1 because the fixture never revives "event signals" from the pulse generator 30, and thus fixture 18 cannot store signals it never receives. Therefore, there is no disclosure or suggestion of "storing the event signals in a holding circuit."

Nor is there any disclosure or suggestion of "producing response signals in a device under test (DUT) in response to the event signals" as recited in claim 1. As already mentioned, the Office action suggests producing the signals from the pulse generator 30 corresponds to "generating event signals." The Office action further suggests that the test specimen 16 corresponds to the "device under test (DUT)" recited in claim 1. This characterization is also incorrect for the following reasons. However, the pulse generator 30 generates signals directed to the sensing circuits in the test board 26 for controlling the timing and frequency of samples in the course of testing the test specimen 16. That is, the signals produced by the pulse generator 30 are applied to the test board 26 (specifically the sensing circuits of the board); those signals are not applied to the test specimen 16. Therefore, the test specimen 16 does not produce response signals "in response" to signals from the pulse generator 30.

Because the Rosenstein patent does not teach or suggest the above quoted limitations, it follows that it does not teach or suggest "evaluating the DUT based on the response signals from the DUT and stored event signals received from the holding circuit" as recited in claim 1. In the Rosenstein patent, output data from the circuit 16 is based on subjecting the circuit to controlled conditions generated from the environmental control application 22. The pulse generator 30 is used initiate the sensing circuit of the board 26 to sample the output from the circuit 16. The computer 38 collects test results from the sensing circuits. However, such testing and data collection functions are not equivalent to "evaluating the DUT based on response signals from the DUT and stored event signals received from the holding circuit" as recited in claim 1. In other words, the current invention measures the response of the DUT based on **input signals**,

whereas the Rosenstein patent measures the response of a circuit to **conditions without applying input signals** to the circuit.

Therefore, for at least the reasons above, claim 1 and dependent claims 2-6 are not anticipated by the Rosenstein patent.

Claim 16 recites a system that includes "a holding circuit for receiving the event signals and trigger signals, and for capturing the event signals . . . and a measuring device for evaluating the DUT based on the response signals from the DUT and captured event signals from the holding circuit." For reasons similar to those discussed above with respect to claim 1, claim 16, as well as dependent claims 17 and 18, are not anticipated and should be allowable as well.

Consequently, applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 102(b) rejections.

Applicant asks that all claims be allowed. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 2/12/03

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